

**Conservation and studies of
Ruff (*Philomachus pugnax* – Kampfläufer)
and
Baltic dunlin (*Calidris alpina* – Alpenstrandläufer)
in Schleswig-Holstein**

Ole Thorup



Hay meadow Eiderdammflächen 2013. Here the first ruff with chicks in Schleswig-Holstein for several years was found by Holger Bruns 12 June. Later in the season two more were found at two other sites. Photo: Monika Povel.

Annual report 2013

Introduction and summary:

Ruff and Baltic dunlin are two of the rarest and most threatened breeding bird species in Germany, and both are red listed as critically endangered in the most recent red lists for Schleswig-Holstein and Germany. In contrast to most other endangered bird species, the level of knowledge of the two species is low, and for years it has even been questioned, whether the two species are breeders in Schleswig-Holstein any longer (LANU 2008, LLUR 2010).

There are no monitoring programmes in Schleswig-Holstein directed specifically at ruff or dunlin, and the two species are covered in their key areas by observing presence or absence in pre-described periods during multispecies mappings, only (e. g. Hälterlein et al. 1995). Additional observations of breeding behaviour are collected unsystematically. Furthermore, ruffs have a prolonged breeding season with a peak after most other meadowbirds have been surveyed, their behaviour in the breeding season is very discrete apart from a short period during the early chick rearing, and they tend to breed away from the highest concentrations of other – more conspicuous – meadowbirds. Hence, there is not collected sufficient information from the standard monitoring programmes to evaluate the population status or to identify the exact breeding sites including nest and chick rearing areas, crucial information in order to safeguard proper management in the core breeding areas of the two species.

Ruffs

breed primarily in very wet hay meadows on relatively poor soil and with a late mowing date. Also low-intensity-grazed pastures with some additional mowing of left-over vegetation can be ruff breeding habitat. Such areas are almost absent in the modern agricultural landscape, but the public owned “Naturschutzköge” in the Schleswig-Holstein Wadden Sea provide refuges with potential ruff breeding opportunities given the right land use.

In order to obtain data on the present status of breeding ruffs in the Life Limosa project sites, and to identify exactly which parts of the sites are the core sites, I have regularly visited sites in the 2013 breeding season, which are known to hold ruffs during the entire breeding season, or which I knew from earlier visits had some landscape elements that looked promising for breeding ruffs. Ornithologists with a good local knowledge gave me most valuable advise on where to search.

In total, 6 female ruffs were found with a nest or with chicks on four different sites in 2013, and another 3 females probably had a nest in the neighbourhood of where they were found. An additional 10 females were seen at suitable breeding sites in the period between the northward and the southward migration, and were likely also locally breeding, or at least attempted to breed in the area (Table 1).

Table 1. Breeding ruffs found in the Life Limosa project sites in the 2013 breeding season.

Ruff 2013

Site	Verified breeders		Probable breeders		Birds attempting to breed		Population 'guestimate'
	Females with chicks or chick clutch seen	Additional females with nest	Additional females from nest habitat empty nest bowl found	Additional females in nest habitat	Females seen between 21 May and 12 June	Males seen between 21 May and 8 June	
Rickelsbüller Koog	0	0	0	1	3	1	3
Hauke-Haien Koog	0	0	0	0	0	0	0
Beltringharder Koog	0	1	0	0	7	4	7
Eiderdammflächen, Katinger Watt	1	0	0	0	1	0	1
Olversumer Vorland-Grüne Insel	0	0	0	0	0	0	0
Oldensworter Vorland	0	0	0	0	0	2	0
Meldorfer Speicherkoog - Wöhrdener Loch	1	1	1	0	5	10	5
Meldorfer Speicherkoog - Nordkoog	0	0	0	1	1	3	1
Speicherkoog Dittmarschen Süd	1	1	0	0	1	0	2
Project sites total	3	3	1	2	18	20	19

- Holger Bruns
- Dominic Cimiotti
- Jutta Hansen
- Ole Thorup and Brigitte Klinner-Hötter
- Ole Thorup

Table 2. Breeding dunlins found in the Life Limosa project sites in the 2013 breeding season.

Baltic dunlin 2013

Site	Verified breeders			Probable breeders			Population 'guesstimate'
	Birds with chicks or chick clutch seen	Additional birds with nest	Additional pairs/individuals in nest habitat empty nest bowl found	Males/pairs with territorial behaviour	Additional pairs/individuals in nest habitat	Baltic dunlin individuals/pairs seen at feeding sites only	
Rickelsbüller Koog	0	0	0	1	1	1	2-3
Hauke-Haien Koog	0	0	0	0	0	0	0
Beltringharder Koog	0	0	0	0	0	0	0
Eiderdammflächen, Katinger Watt	0	0	0	0	0	1	0-1
Olversumer Vorland-Grüne Insel	0	0	0	0	0	0	0
Project sites total	0	0	0	1	0	2	2-4

- Holger Bruns
- Jutta Hansen and Ole Thorup
- Brigitte Klinner-Hötker and Ole Thorup
- Ole Thorup

Baltic dunlins

breed in moist or wet well grazed unfertilized pastures, but they cannot reproduce themselves if the grazing density is too high in the incubation period in May and June due to nest destruction by cattle (e.g. Pakanen et al. 2011).

Breeding dunlins were searched for in Rickelsbüller Koog, but breeding here was not documented in 2013. However, several Baltic dunlins were present, and one territorial bird was seen. So most likely 2-3 pairs were at the site in 2013, but they hardly bred successfully. I barely spent enough time at the site to get a full overview of the status of the species.

At the Eiderdammflächen I never visited the part with the highest breeding potential for the species.

Most likely some 2-4 pairs bred in the project sites in 2013 (Table 2).

Land use/management improvement for ruffs and dunlins:

Rickelsbüller Koog:

The area was far too dry in the 2013 breeding season for being a good breeding habitat for ruff or for meadowbirds in general. This happened due to a management mistake in handling the winter and spring water retention this year.

For many years, breeding of ruffs has primarily been concentrated to the northeast corner of the site. Here the nesting habitat is very fragmented by reed, with only relatively restricted areas with proper open grassy habitat. Perhaps the 2013 situation was due to the very late spring of the year, but at the visit late May, very little suitable ruff nest habitat was present. The higher vegetation was all dense reed islands unsuitable for ruff, whereas in the areas with low vegetation there was very little vegetation sufficiently high for a ruff nest.

The areas with suitable vegetation for dunlins were fairly restricted. The south-western meadows – apparently preferred by the grazing cattle – had a nice short vegetation, and locally along the eastern shore of the main lagoon there were also areas with a suitable vegetation for breeding dunlin. Expansion of areas with a shorter grass sward would improve the quality of the area for the species.

Beltringharder Koog:

Two areas have been visited within this project: The freshwater meadows in the eastern part of Beltringharder Koog south of the Lüttmoordamm (hereafter the south-meadows) and the meadows in Arlauer Speicherbecken between the river Arlau and the saltwater lagoon (hereafter the Speicherbecken).

The generally short-grazed south-meadows with a very high water table provide an excellent feeding and lekking habitat for ruff, and several ruffs were present here during the entire breeding season. However, at two visits late May and early June, respectively, it became obvious that there was very little suitable nesting habitat for ruff: The majority of the areas above the water had very

short vegetation, and the exceptions with higher vegetation were primarily islands with hardy herb vegetation also not very suitable for hiding a ruff nest. Only the sections immediately south of the Lüttmoordamm locally had patches with 10-20 cm high grassy vegetation, potentially suitable for ruff nests. However, no ruffs with nesting behaviour were found here although searched for, and this in combination with the fact, that no female ruffs have ever been found here with chicks, and very few observations have been done of ruffs with potential breeding behaviour during the quite intensive survey programme over the years, questions whether the ruffs actually place their nests regularly in this part of the area.

In contrast, at the first visit at the Speicherbecken 14 June one female ruff with a nest was found, and earlier in the season, a godwit nest camera approximately 150 m from the identified ruff nest recorded a female ruff in potential nesting habitat. In this meadow area favourable ruff nest vegetation grew up from late May, and regular rainfall kept the area sufficiently wet for ruffs. The management of the area in 2013 with postponing the grazing until the end of the kentish plover breeding season some time in July at the same time suits the breeding ruffs very well. However, the very late start of grazing may mean that cattle are not able to remove all of the higher vegetation, and additional mowing may be necessary in order to secure a proper vegetation height and structure before the 2014 season.

Even if it is the case that the south-meadows do not regularly provide ruff nest habitat, they are almost without doubt crucial for the local population of ruffs. Therefore it is recommended to retain the present management with a very high water table and grazing and supplementary mowing of areas where the grazing is insufficient to keep the vegetation short and open. Perhaps, a fencing off of the section with the meadows immediately south of the Lüttmoordamm (counting units 510/a, 510/b and 510/c) and postpone the grazing here until early July would improve the chance of having ruffs nesting here (more nest habitat vegetation, minimize the risk of trampling of nests).

It may very well be so that the presence of favourable nest habitat is a limiting factor for ruffs at Beltringharder Koog, and it may improve the site for the species if some neighbouring areas can be integrated into the ruff conservation area. E. g. an area between the river Arlau and the observation tower at the dike, which is apparently at present already a late mown area, may be possible to convert into a potential nesting area for ruff with the right management (wet, no fertilisation, no mowing before end of July, removal of margin vegetation creating open passage from this meadow across the dike to the south-meadows).

Eiderdammflächen:

Only the area south of the observation tower and east-south-east of the public parking area was visited. The management with a high water table and a mixture of grazing and late hay making has created a perfect breeding habitat for ruff and other meadowbirds. A continuation of the present management will safeguard future good breeding opportunities.

Oldenswörter Vorland:

Apparently the meadows had been much too dry for breeding ruff in the establishment period in mid to late May for attracting the species. Apart from that, good nesting habitat seemed to be available.

Speicherkoog nord (Wöhrdener Loch):

The meadows northwest of the bridge and southeast of the bird hide have large areas with excellent breeding habitat for ruff. The combination of selective mowing and cutting of bushes and the mixed grazing of horses, cattle and sheep is working very well in creating an attractive meadow for meadowbirds including ruffs.

Adjacent to the ruff breeding areas there are some islands with low quite dry reed. It would be worth mapping the distribution of the reed in order to know, whether areas with reed are increasing or decreasing. If they are stable or decreasing with the present land use, no further actions are probably needed, if they are increasing something should be done to stop such a development.

Next to the good meadowbird breeding areas there is a tree with a crow nest, and in the surroundings several crow predated meadowbird eggs were found. It is recommended to remove that tree and the remaining few bushes from the meadow in order to increase the nesting success of the meadowbirds.

Although the meadows were one metre or more above the water table of the surrounding water bodies, quite large parts of the meadows were moist or wet with attractive breeding conditions for ruffs and other meadowbirds at all the visits in the area (early June, mid June, late June and early July, respectively). At two occasions the visit took place several days after the last rainfall. Obviously, the soil is capable of some water retention, which was quite surprising as it was expected to be a sandy soil with no retention capability. A better understanding of the hydrology in the area would improve the possibility of managing the site optimally for meadowbirds.

Speicherkoog Süd (military area):

Only the central part of the area has been visited, west of the summer dike at Barlter Sommerkoog and east of the low dike east of the main lagoon.

There is a pronounced difference between the northern part and the southern part of this meadow, and the border between the two different parts is an east-west line situated just north of the passage over the main channel to the west from the gravel road to the meadow. To the north of this line, the meadow was completely void of breeding meadowbirds at a visit early June. The water table was high, but there was a fairly high hay-stubble of some 10-14 cm and a thick layer of uncollected hay litter from last year.

South of this line there was no visible hay-stubble and almost no litter, although this difference is not yet understood. This section consisting of the southern half of the meadow was full of meadowbirds, both alarming and nesting at the two visits early and late June, respectively. The management in this section appeared very favourable to ruffs and other meadowbirds.

Without doubt, water table, mowing height and removal of harvested vegetation are key issues here. In 2013 the water table was high and attractive to the meadowbirds. At the mowing a mowing height of maximum 3-5 cm should be targeted, and if possible a mat of litter should be avoided. How this should be obtained can maybe be untangled when the 2012-2013 management is known in more details.

Acknowledgments:

Thank you to Holger Bruns, Dominic Cimiotti, Hauke Drews, Jutta Hansen, Hermann Hötter, Brigitte Klinner-Hötter, Volker Salewski and Luis Schmidt for good company in the field and/or for sharing inspirational ideas.

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Appendix 1. Observation details and documentation

Ruff					
ID	GPS ID	Site	Coordinates N	Coordinates E	Observations
Females with chicks					
RUCH131	<i>EDFBRU131</i>	Eiderdammlächen	54.28109	008.85058	4 June nervous female seen (Holger Bruns). 12 June female with one or two chicks seen (Holger Bruns)
RUCH132	<i>SPKB14</i>	Dittmarscher Speicherkoog süd	54.04956	008.99932	23 June alarming female seen and heard (Ole Thorup, Volker Salewski)
RUCH133	<i>SPKB131</i>	Dittmarscher Speicherkoog Wöhrdener Loch	54.11757	008.95528	6 June one female followed by 5 males a bit to the west (Ole Thorup), 2 July alarming female seen and heard (Ole Thorup, Volker Salewski)
Nests					
RUNE131	<i>SPKBR131</i>	Dittmarscher Speicherkoog süd	54.04128	008.99768	6 June a female flushed from nest with 4 eggs. 23 June nest empty and depredated. No recent use of the nest, so predation taken place relatively short time after 6 June (Ole Thorup, Volker Salewski)
RUNE132	<i>SPKNB135</i>	Dittmarscher Speicherkoog Wöhrdener Loch	54.11691	008.94262	23 June one female flushed from the same site three times in potential nest habitat, but the nest too well hidden to be found (Ole Thorup, Volker Salewski). 2 July no bird seen
RUNE133	<i>BKB13R3</i>	Arlauer Speicherbecken	54.53957	008.92865	14 June disappeared three times into the vegetation with suitable nest habitat (Ole Thorup). 23 June flushed three times from the same site within one-and-a-half hour, but nest too well hidden to be found. Most of the area flooded by one to five cm of water. More rain 24 and 25 June without doubt flooded the nest (Ole Thorup). 1 July no bird seen (Brigitte Klinner-Hötker, Ole Thorup)
Nest sites					
RUNS131		Rickelsbüller Koog			5 June a female disappeared into higher vegetation, possible nest habitat (Jutta Hansen), 25 June no bird seen (Ole Thorup)
RUNS132	<i>SPKBRF131</i>	Dittmarscher Speicherkoog Wöhrdener Loch	54.11818	008.94879	6 June a female flushed from the meadow, an empty nest bowl found nearby (Ole Thorup). 23 June and 2 July no bird seen (Ole Thorup, Volker Salewski)
Baltic dunlin					
ID	GPS ID	Site	Coordinates N	Coordinates E	Observations
Territories					
DUTE131	<i>RKRT1</i>	Rickelsbüller Koog	54.88919	008.64543	29 May one territorial bird seen in short grassed meadow (Ole Thorup), 30 May four birds here, no breeding behaviour (Jutta Hansen). 25 June no bird seen (Ole Thorup)
Redshank					
ID	GPS ID	Site	Coordinates N	Coordinates E	Observations
Nests					
RSNE131	<i>BKRO1</i>	Beltringharder Koog	54.56075	008.93316	27 May open nest with 2 eggs (Ole Thorup). No further visits
RSNE132	<i>BKRO2</i>	Beltringharder Koog	54.56706	008.92071	27 May fairly open nest with 4 eggs (Ole Thorup). 14 June nest site trampled into the mud by cattle, but very likely hatched first, as alarming parents nearby (Ole Thorup, Luis Schmidt)
RSNE133	<i>BKRO3</i>	Beltringharder Koog	54.56562	008.92331	27 May well hidden nest with 4 eggs (Ole Thorup), 14 June bird flushed from an extremely well hidden nest with 4 eggs (Ole Thorup, Luis Schmidt)
RSNE134	<i>BKRO4</i>	Beltringharder Koog	54.56678	008.91856	27 May well hidden nest with 4 eggs (Ole Thorup), 14 June nest not found, alarming parents above the former nest site (Ole Thorup, Luis Schmidt)

Remark: The intention was to control redshank nests in ruff nesting areas in order to get a larger sample of nest survival in this type of nests. As it turned out, the part of Beltringharder Koog with the found redshank nests, is not necessarily a ruff nesting area, and furthermore grazing cattle made it very complicated to collect an unbiased sample. So the data collected on this in 2013 are not considered further